



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
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CLAY BRIGHT
COMMISSIONER

BILL LEE
GOVERNOR

INSTRUCTIONAL BULLETIN NO. 19-07

Regarding New and Revised Standard Drawings for Marking Details for Expressways and Freeway Interchanges and A New 36" Single Slope Concrete Barrier Wall

Effective August 9, 2019 letting (May 29, 2019 Turn-in), the following standard drawings have been developed. Section 5 of the Roadway Design Guidelines has been revised to incorporate these changes.

New Standard Drawing:

DRAWING NUMBER	REVISION DATE	DESCRIPTION
S-SSMB-1A		36" SINGLE SLOPE CONCRETE BARRIER WALL

Revised Standard Drawing:

T-M-6	01-07-19	MARKING DETAIL FOR EXPRESSWAY & FREEWAY INTERCHANGES
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These standard drawings are revised in the Roadway Design Guidelines, Chapter 5, Index of Standard Drawings and are available online.

Standard Drawings:

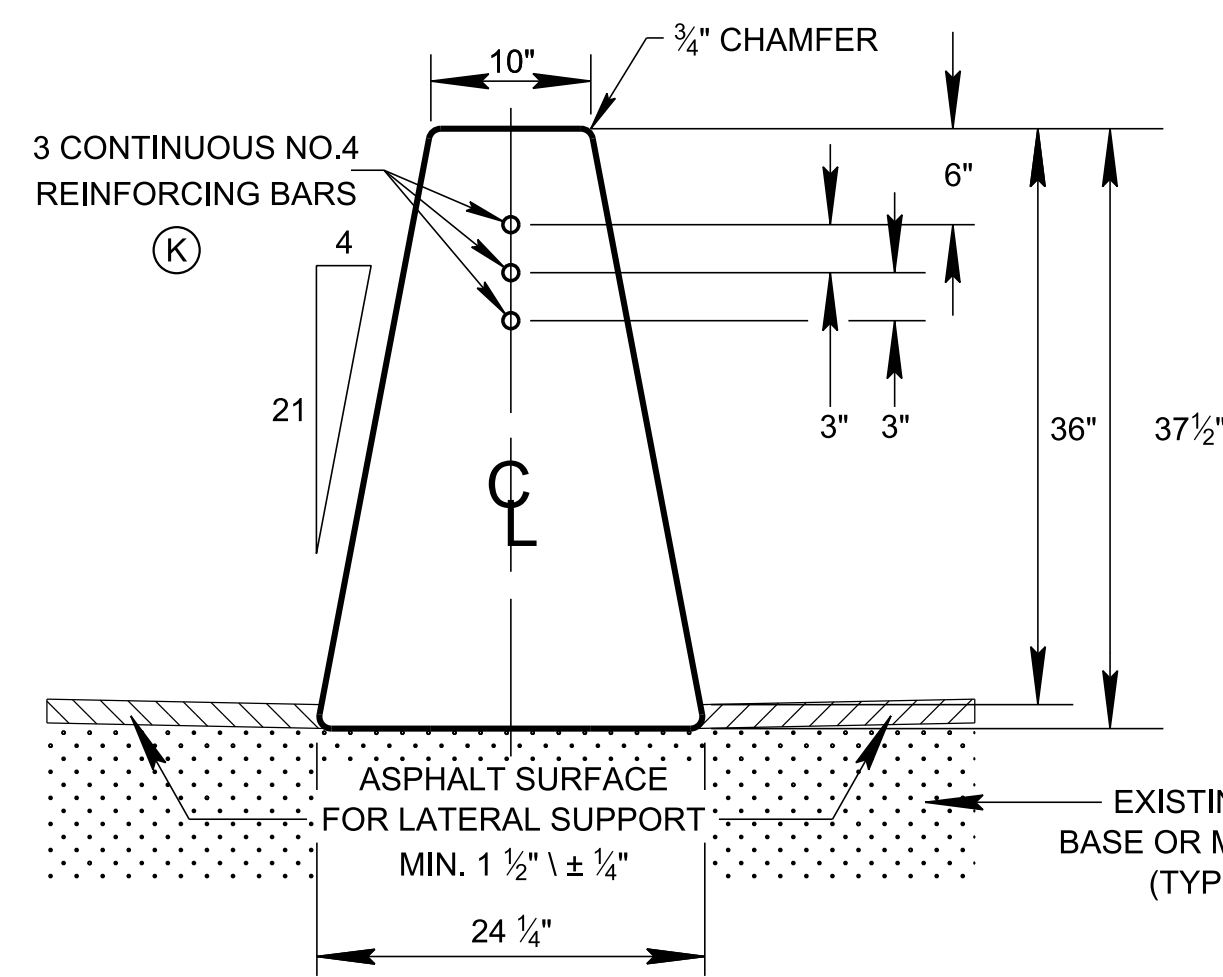
<https://www.tn.gov/content/tn/tdot/roadway-design/standard-drawings-library/standard-roadway-drawings.html>

Roadway Design Guidelines:

<https://www.tn.gov/content/tn/tdot/roadway-design/design-standards/design-guidelines.html>

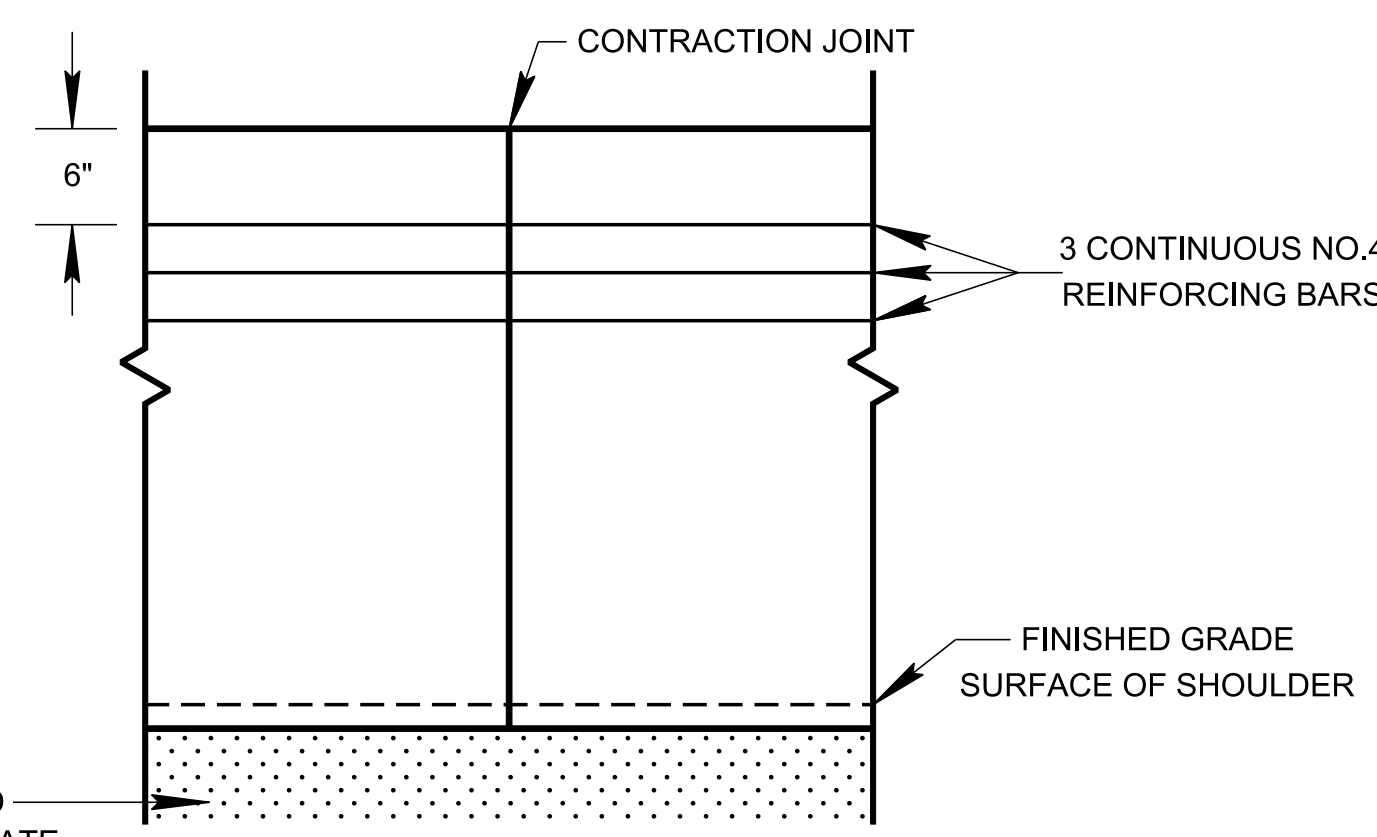


 Jennifer Lloyd, PE
 Civil Engineering Director
 Roadway Design Division

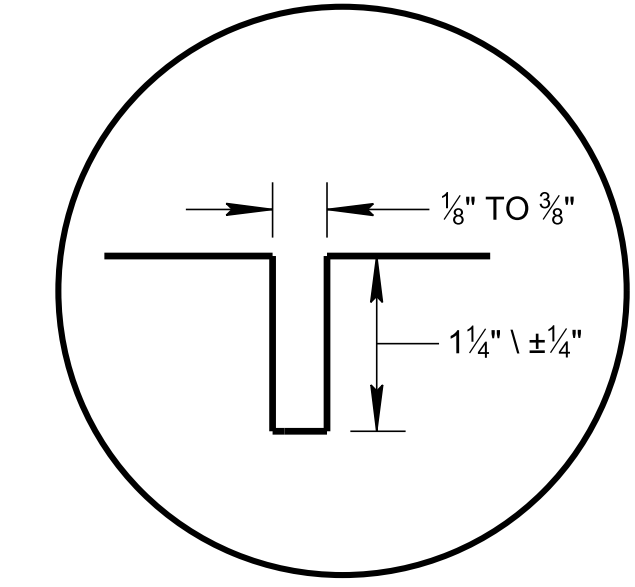


SECTION VIEW

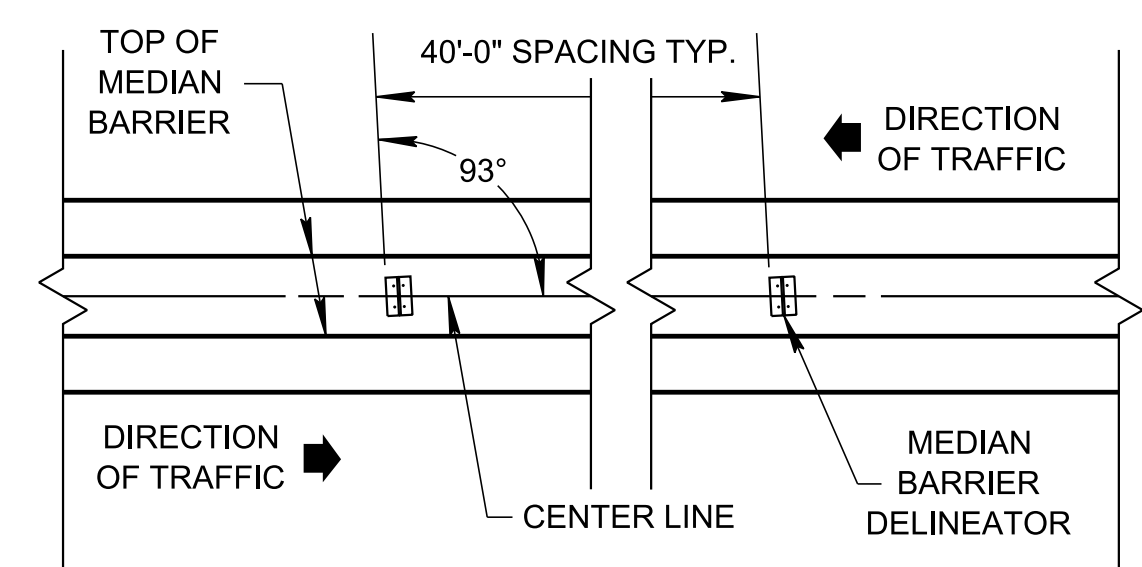
36" HEIGHT WALL



ELEVATION VIEW



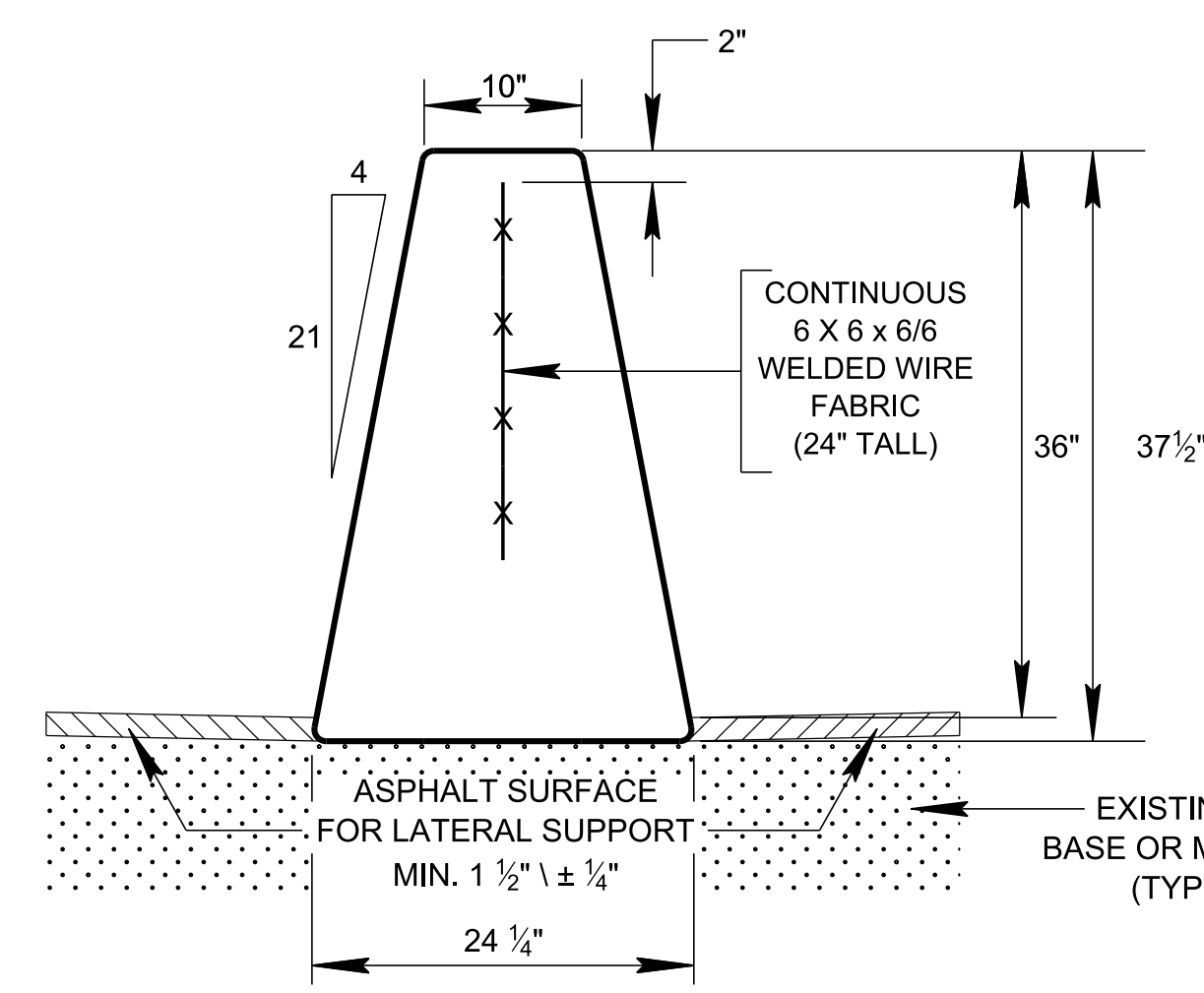
CONTRACTION JOINT DETAIL



DELINEATOR MOUNTING DETAIL

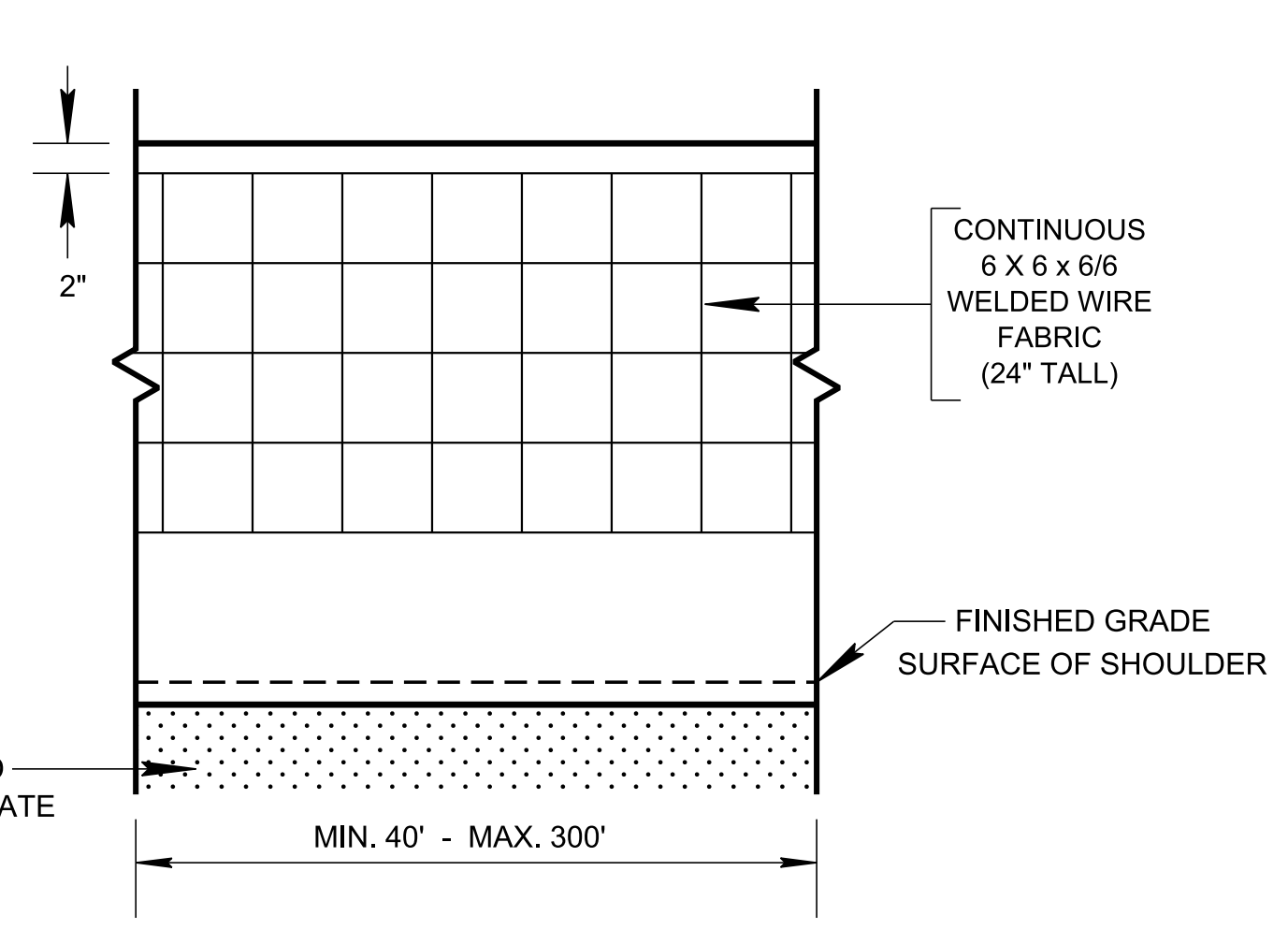
DELINEATOR NOTES

- ① MEDIAN BARRIER DELINEATOR REFLECTIVE SHEETING SHALL MEET ASTM D4956, TYPE V SPECIFICATIONS. DELINEATORS WITH DIMENSIONS OTHER THAN 4" X 3" MAY BE USED IF THE PRODUCT IS ON THE APPROVED PRODUCTS LIST. THE VARIATIONS IN DELINEATOR DIMENSION SHOULD NOT EXCEED ± 10%. DIFFERENT SIZE OR MANUFACTURED MEDIAN BARRIER DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
- ② MEDIAN BARRIER DELINEATORS SHALL BE HIGH IMPACT, UV-STABILIZED, ENGINEERED THERMOPLASTIC OR POLYCARBONATE SUBSTRATE. SEE TDOT APPROVED QUALIFIED PRODUCT LISTS FOR ACCEPTABLE PRODUCTS.
- ③ MEDIAN BARRIER DELINEATORS WILL NOT BE REQUIRED IN AREAS WHERE ROADWAY IS LIGHTED.
- ④ SINGLE WHITE REFLECTIVE SHEETING WILL BE SUBSTITUTED FOR THE DOUBLE YELLOW REFLECTIVE SHEETING WHEN TRAFFIC ON EACH SIDE OF THE BARRIER IS GOING IN THE SAME DIRECTION.
- ⑤ THE COST OF FURNISHING AND INSTALLING MEDIAN BARRIER DELINEATORS, INCLUDING ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION, SHALL BE INCLUDED IN BID PRICE FOR CONCRETE MEDIAN BARRIER.
- ⑥ MEDIAN BARRIER DELINEATORS SHALL BE MOUNTED TO THE CONCRETE MEDIAN BARRIER WITH A ONE COMPONENT ADHESIVE AS RECOMMENDED BY THE MANUFACTURER. THEY SHALL BE INSTALLED NO EARLIER THAN THREE WEEKS AFTER THE TEXTURE COATING HAS BEEN APPLIED.

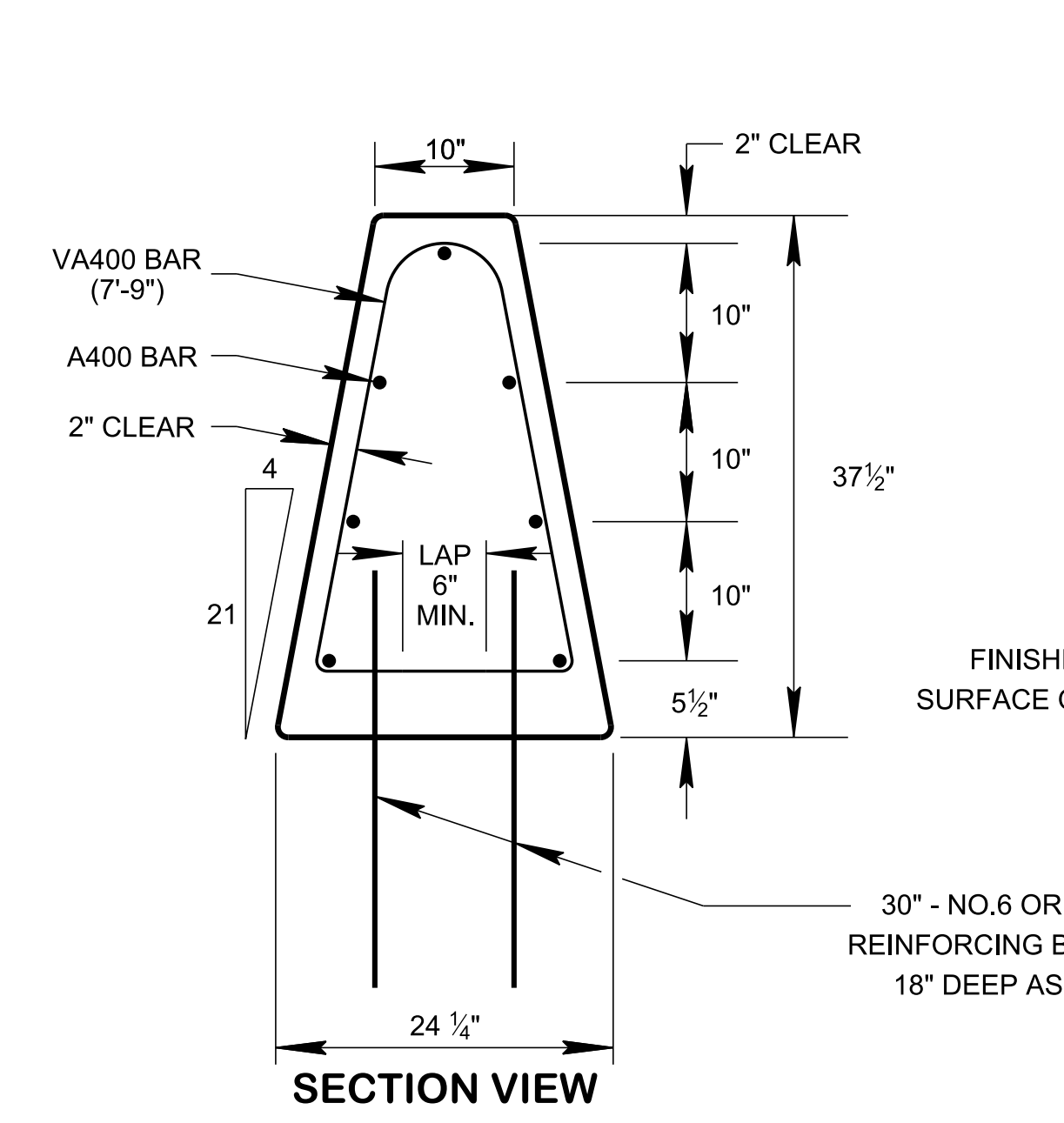


SECTION VIEW

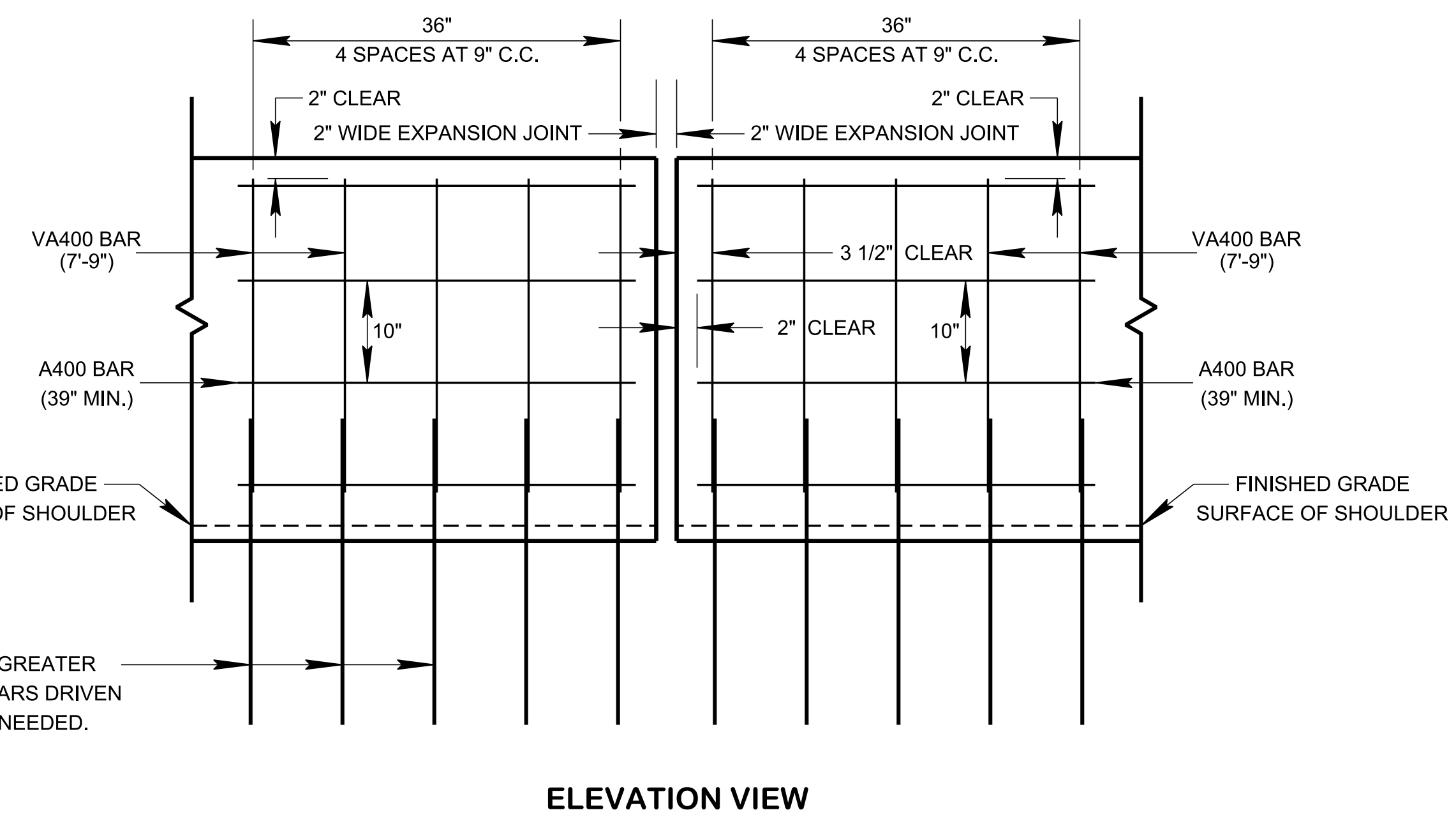
36" HEIGHT WALL WITH ALTERNATE REINFORCING



ELEVATION VIEW



SECTION VIEW



ELEVATION VIEW

DETAILS OF ADDITIONAL REINFORCING AT THE WALL ENDS OR AT EXPANSION JOINT

GENERAL NOTES

- (A) CONCRETE BARRIER WALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 711 AND/OR CURRENT SPECIAL PROVISIONS.
- (B) IF SAWED CONTRACTION JOINTS ARE USED, THE JOINTS MUST BE SAWED WITHIN FOUR (4) HOURS AFTER THE CONCRETE IS PLACED.
- (C) THE CONTRACTION JOINTS ARE TO BE SPACED AT 20 TO 25 FOOT INTERVALS WHEN CONSTRUCTED ON ASPHALT PAVEMENT. WHEN THE CONCRETE BARRIER WALL IS ATTACHED TO CONCRETE PAVEMENT THE CONTRACTION JOINTS WILL CORRESPOND TO THE JOINTS IN THE CONCRETE PAVEMENT. THE COST OF MATERIAL AND LABOR FOR THE JOINT INSTALLATION SHALL BE INCLUDED IN THE BID PRICE FOR CONCRETE MEDIAN BARRIER.
- (D) THE CONCRETE BARRIER WALL SHALL BE GIVEN AN APPLIED TEXTURE FINISH. THE COLOR OF THE FINISH SHALL BE WHITE, FEDERAL SPECIFICATION NO. 37886. THE COST OF MATERIALS AND LABOR FOR THE TEXTURE FINISH SHALL BE INCLUDED IN THE BID PRICE FOR CONCRETE MEDIAN BARRIER.
- (E) THE TWO (2) INCH OPEN EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM SPACING NOT TO EXCEED 300 FEET. IF FIXED OBJECTS SUCH AS BRIDGE PIERS, BRIDGE ENDS, OVERHEAD SIGN SUPPORTS, OR OTHER FEATURES PROJECTING THROUGH, INTO OR AGAINST THE BARRIER EXIST THAT REQUIRE TWO INCH EXPANSION JOINTS, THEN THE DISTANCE BETWEEN THE EXPANSION JOINTS IS TO BE REDUCED IN ORDER TO ALLOW AN EQUAL DISTANCE BETWEEN JOINTS THAT IS LESS THAN 300 FEET. ALL ADDITIONAL STEEL REQUIRED AT EXPANSION JOINTS IS TO BE EPOXY COATED REINFORCING STEEL. THE COST OF MATERIAL AND LABOR FOR THE JOINT INSTALLATION SHALL BE INCLUDED IN THE BID PRICE FOR CONCRETE MEDIAN BARRIER.
- (F) THE TOP AND END EDGES OF THE CONCRETE BARRIER WILL HAVE A 3/4" TO 1" CHAMFER. IF BARRIER WALL IS SLIP-FORMED, ROUNDED EDGES WITH A 1" RADIUS MAY BE USED INSTEAD OF THE CHAMFER.
- (G) BAR SPLICES FOR ROADWAY BARRIER SHALL BE A MINIMUM OF 24 TIMES THE NOMINAL DIAMETER OF THE BAR.
- (H) ANY METHOD DEvised BY THE CONTRACTOR AND APPROVED BY THE ENGINEER THAT WILL ASSURE THE LONGITUDINAL ROADWAY REINFORCING STEEL WILL BE FIXED AGAINST MOVEMENT AND POSITIONED ± 1/2 INCH AS DIMENSIONED WHEN TIED TO THE TRANSVERSE ROADWAY REINFORCING STEEL WILL BE SATISFACTORY.
- (I) PAYMENT WILL BE MADE UNDER ITEM NO. 711-05.69, 36" SINGLE SLOPE CONCRETE BARRIER WALL, PER LINEAR FOOT.
- (J) MIN. SAFETY PERFORMANCE OF 36" SINGLE SLOPE WALL HAS BEEN EVALUATED UNDER MASH TL-4 AND DOCUMENTED ON TEST REPORT TTI: 9-1002-5, "DETERMINATION OF MINIMUM HEIGHT AND LATERAL DESIGN LOAD FOR MASH TEST LEVEL 4 BRIDGE RAILS".
- (K) THE CONTRACTOR MAY ELECT TO USE 3 CONTINUOUS ROPE CABLES INSTEAD OF THE 3 NO. 4 REINFORCING BARS. EACH CABLE MUST BE 3/4 INCH (MINIMUM) DIAMETER, ZINC-COATED (GALVANIZED) WIRE ROPE MANUFACTURED IN ACCORDANCE WITH AASHTO M 30.

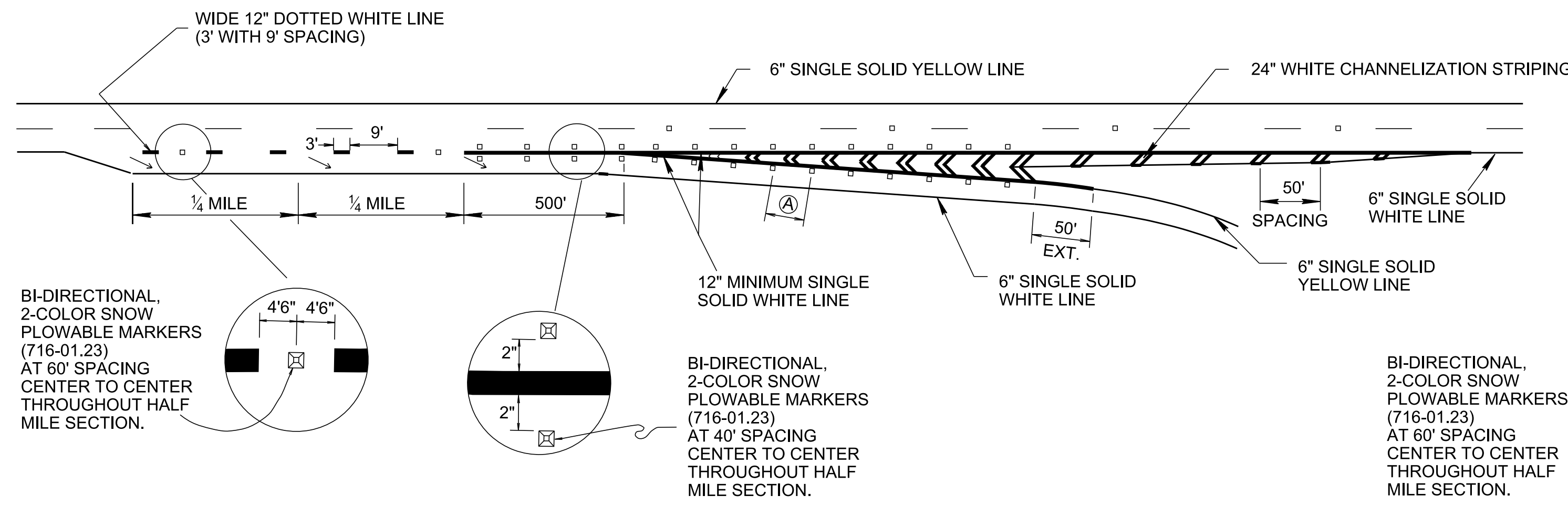
STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

36"
SINGLE SLOPE
CONCRETE
BARRIER
WALL

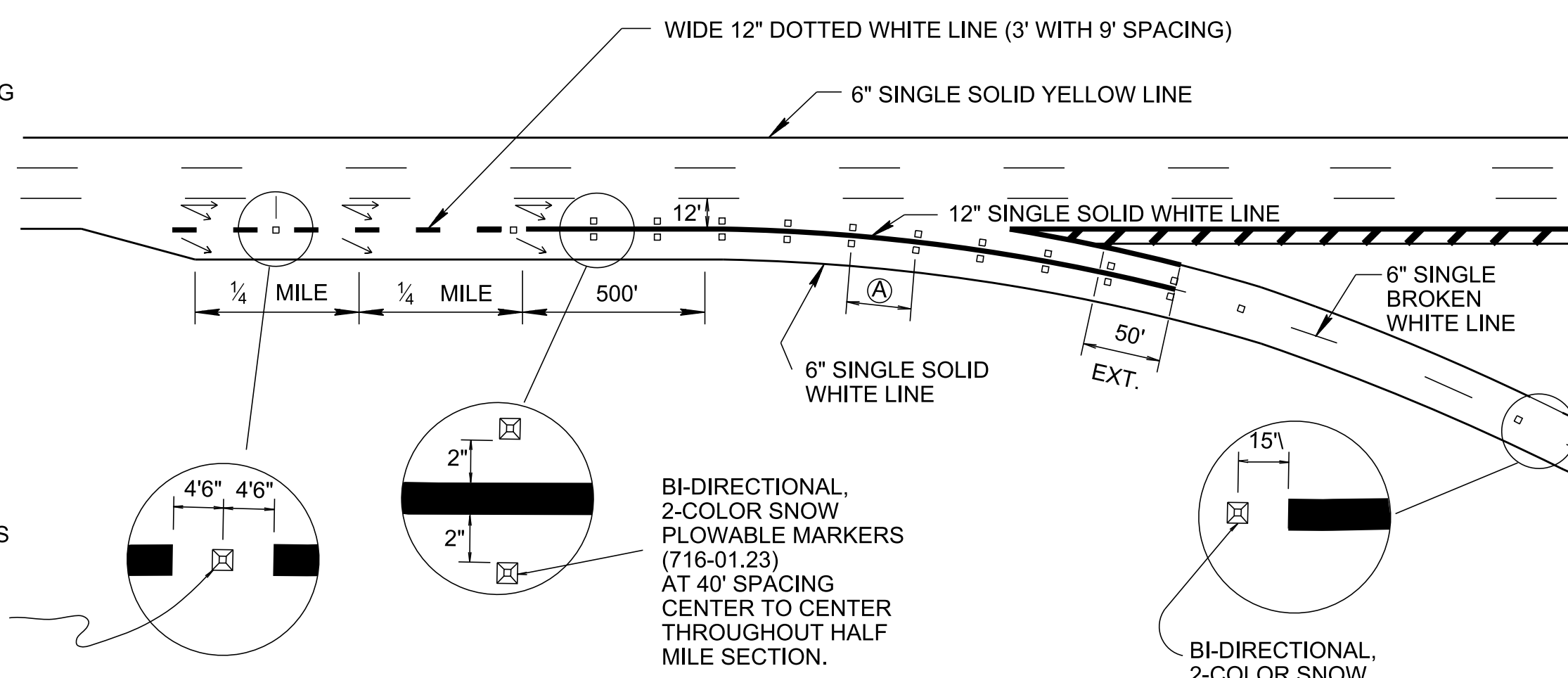
01-07-2019 S-SSMB-1A

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NOT TO SCALE

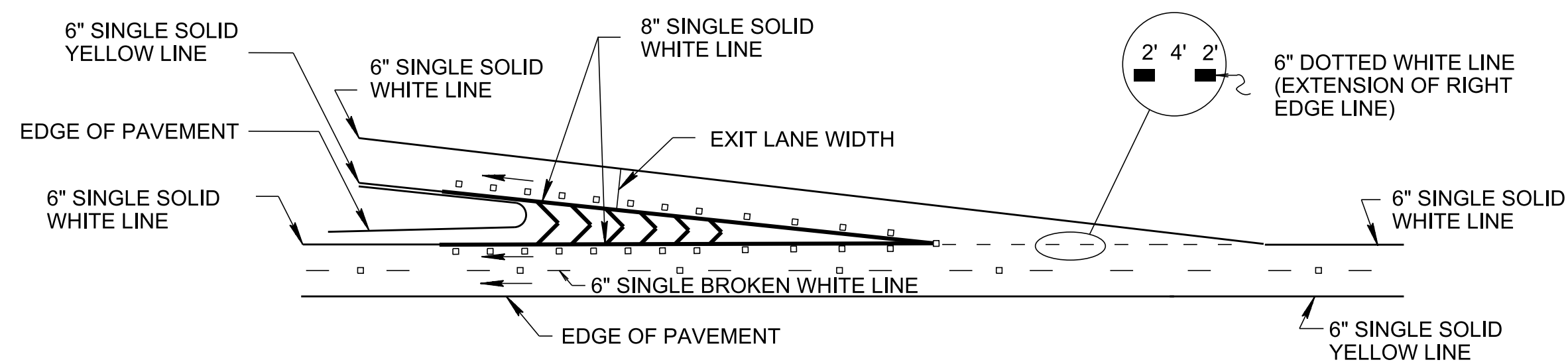


EXIT ONLY LANE

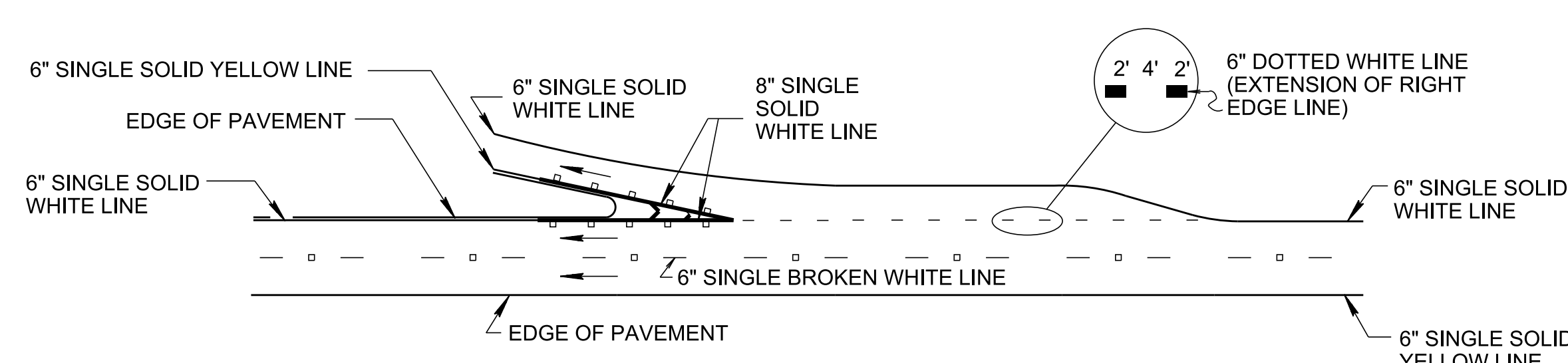


EXIT ONLY LANE WITH OPTIONAL LANE

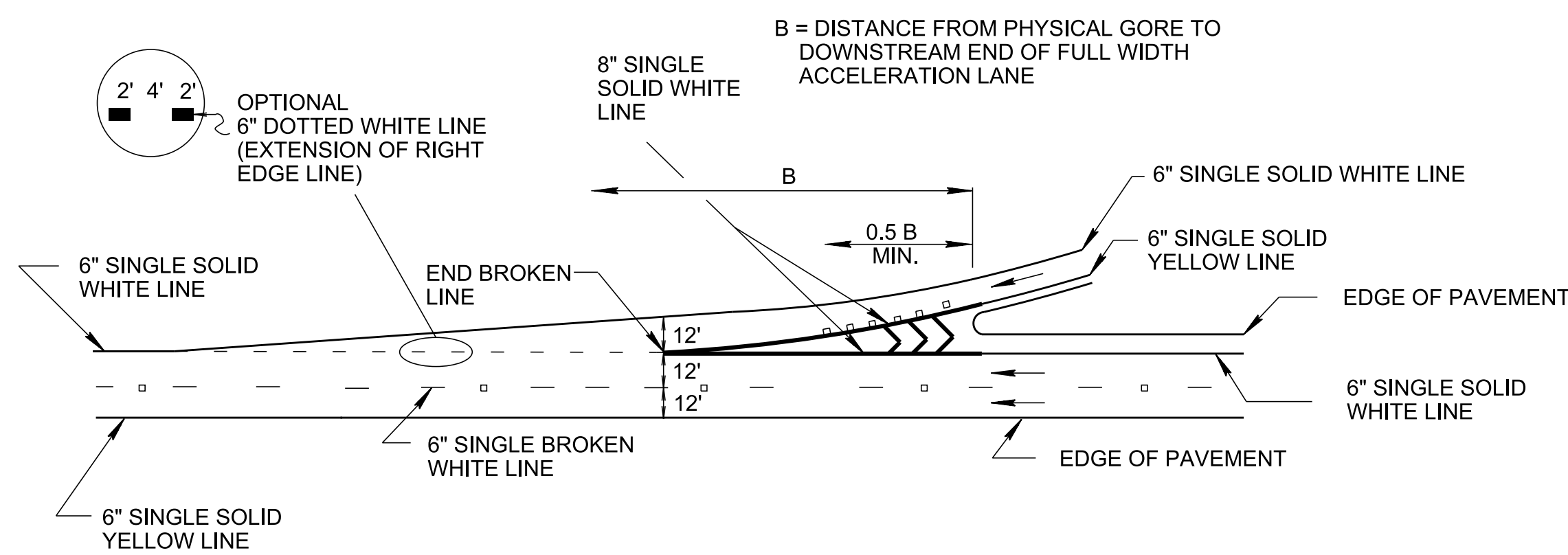
- REV. 2-22-88: ADDED DETAIL FOR "EXIT ONLY" AND FOR PARALLEL ACCELERATION LANE MARKING.
- REV. 10-30-90: REDREW AND REORGANIZED SHEET, CHANGED WIDTH OF EXIT PAVEMENT ARRANGED TO 12".
- REV. 03-20-91: ADDED MONO-DIRECTIONAL PAVEMENT MARKERS (CLEAR) TO EXIT ONLY LANE DETAIL AND TWO LANE EXIT WITH OPTIONAL LANE DETAIL. CHANGED GENERAL NOTES. ON REMAINDER OF SHEET CHANGED TYPE 2 PAVEMENT MARKERS (CLEAR) TO MONO-DIRECTIONAL PAVEMENT MARKERS (CLEAR).
- REV. 10-26-92: ADDED GENERAL NOTE (B).
- REV. 12-18-92: MOVED MONO-DIRECTIONAL PAVEMENT MARKERS (CLEAR) FROM INSIDE OF CHANNELIZATION MARKING TO OUTSIDE OF CHANNELIZATION MARKING.
- REV. 01-19-94: IN DETAIL FOR TWO LANE EXIT WITH OPTIONAL LANE, EXTEND RAMP AND ADD PAVEMENT MARKERS.
- REV. 07-29-98: CHANGED WIDTH OF CENTERLINES, EDGELINES AND DOTTED WHITE LANE LINES FROM 4 TO 6 INCHES. CHANGED USE OF DOTTED WHITE LANE LINES IN PARALLEL AND TAPERED ACCELERATION AND DECELERATION DETAILS.
- REV. 09-01-09: ADDED 6" BROKEN WHITE LINE TO PARALLEL ACCELERATION LANE.
- REV. 11-01-11: REVISED PAVEMENT MARKINGS FOR EXIT ONLY LANE DETAIL, EXIT ONLY WITH OPTIONAL LANE DETAIL, TAPERED ACCELERATION LANE DETAIL AND PARALLEL ACCELERATION LANE DETAIL. DELETED GENERAL NOTE (B).
- REV. 01-12-12: CHANGED SNOW PLOWABLE MARKERS FROM MONO-DIRECTIONAL TO BI-DIRECTIONAL 2-COLOR.
- REV. 05-24-12: REVISED PAVEMENT MARKINGS FOR TAPERED ENTRANCE AND EXIT AND PARALLEL ENTRANCE AND EXIT RAMP.
- REV. 06-22-12: REVISED SPACING FOR SNOW PLOWABLE MARKINGS IN EXIT ONLY DETAILS.
- REV. 01-07-19: REVISED DETAILS TAPERED ACCELERATION LANE ENTRANCE RAMP AND PARALLEL ACCELERATION LANE.



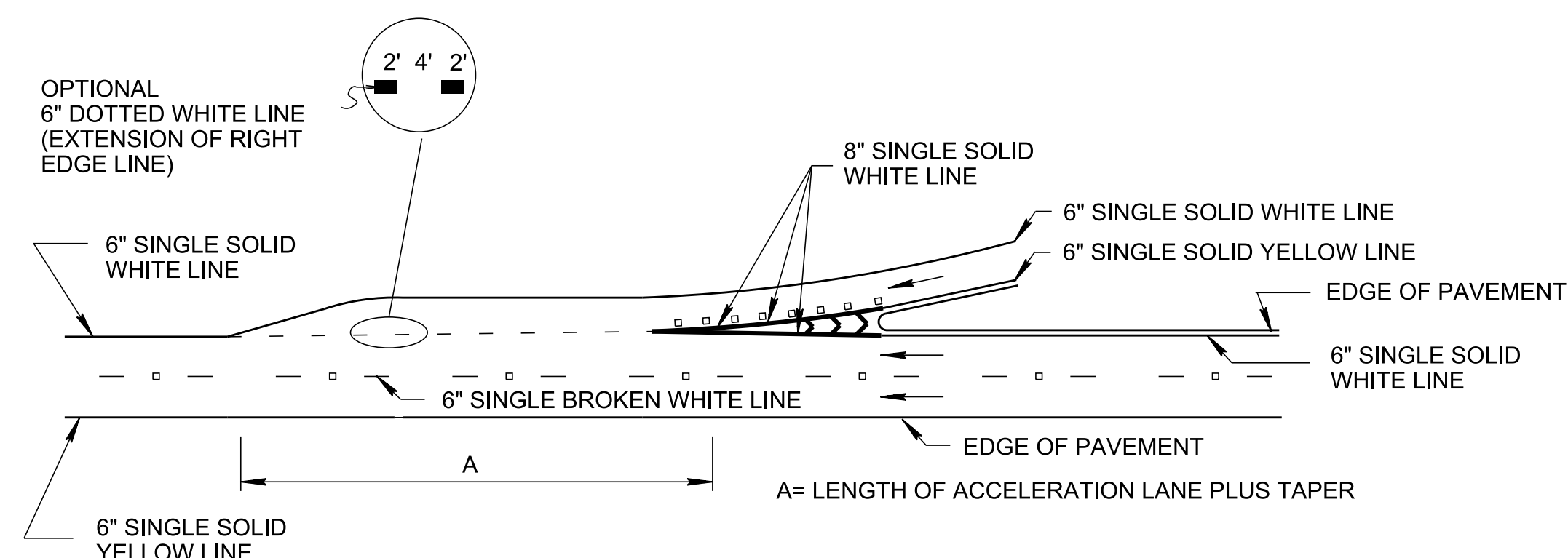
TAPERED DECELERATION LANE EXIT RAMP



PARALLEL DECELERATION LANE

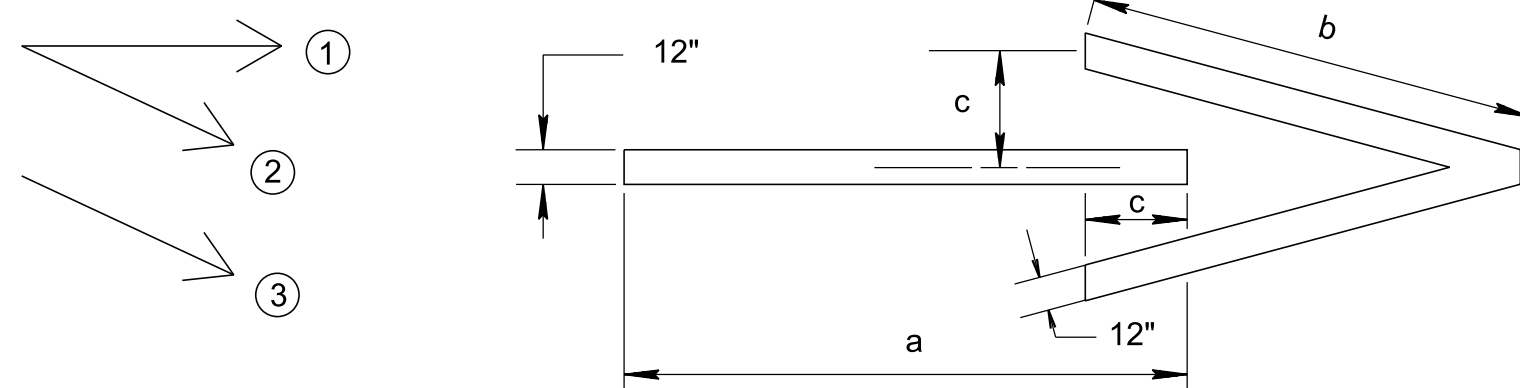


TAPERED ACCELERATION LANE ENTRANCE RAMP



PARALLEL ACCELERATION LANE

NOTE: FOR AT LEAST 1/2 THE LENGTH OF THE FULL-WIDTH ACCELERATION LANE PLUS TAPER.



DIMENSIONS			
ARROW	a	b	c
①	14'-0"	8'-6"	2'-2"
②	10'-4"	8'-6"	2'-2"
③	16'-6"	10'-0"	2'-6"



ARROW LOCATION SKETCH

GENERAL NOTES
 (A) SEE STANDARD DRAWING NO. T-M-7 FOR GORE MARKING DETAILS.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
 STANDARD DRAWING
 DEPARTMENT OF TRANSPORTATION

MARKING DETAIL FOR EXPRESSWAY AND FREEWAY INTERCHANGES